

Joseph Tully (tully\_jad@casa.gov.au)  
Regulatory Framework Program  
Civil Aviation Safety Authority  
GPO Box 2005  
Canberra ACT 2601  
Australia

## **PROPOSED CHANGES TO AUSTRALIA'S TRAINING AND LICENSING OF AIRCRAFT MAINTENANCE PERSONNEL**

### **ABSTRACT**

In June 1996, the Civil Aviation Safety Authority (CASA) Australia, initiated the Regulatory Framework Program (RFP) to review and where necessary revise the Australian aviation legislation. One of the prime objectives of the RFP was to harmonise the legislation, where appropriate with international standards and practices such as the US Federal Aviation Regulations (FAR) and the Joint Aviation Requirements (JAR).

This paper will discuss the RFP review of Australia's requirements for the training and licensing of aircraft maintenance personnel, proposed changes to the training requirements contained in the Australian Civil Aviation Regulation (CAR) Part 147 and the proposed changes to the approval of maintenance personnel in the Australian CAR Part 66. This paper will also discuss the Australian national training strategies that CASA has included as part of the overall training requirements.

In respect of Australia's CAR Part 147 - Approved Training Organisations we have closely sourced the JAR 147 model whereas for the CAR Part 66, we have retained the status of the current Australian aircraft maintenance engineer (AME) licensing system but have included aspects of the proposed FAR Part 66 requirements.

### **DISCUSSION**

#### **Current Requirements**

The Australian aircraft maintenance personnel legislation provides for the issue of an Aircraft Maintenance Engineer (AME) licence. The licence is issued to a person by CASA on attaining the necessary age, experience and knowledge levels compliant with ICAO Annex 1. The licence allows the holder to carry out and certify for maintenance on aircraft covered by the licence. Other aircraft maintenance personnel are covered by an airworthiness authority which allows them to carry out and certify for specified task related maintenance.

Under the current maintenance personnel training requirements, mandatory training to address technical knowledge/skill requirements, is only required for aircraft nominated by CASA. These aircraft are essentially Part 25 and Part 29 aircraft but include any aircraft CASA considers complex. For all other aircraft, candidates for an AME licence need only pass the examinations set by CASA to meet the technical knowledge/skill requirements. Some candidates choose to prepare for the examinations by undertaking training provided by the various Australian technical colleges, but a significant number of candidates choose to "self study" for the CASA examinations. This "choice" factor has been identified as one of a number of factors causing a variation in the standard of technical expertise of Australian aircraft maintenance personnel.

#### **Review**

A review of aircraft maintenance personnel training and licensing requirements was included in the RFP, and a CASA - Industry consultation committee was established. The committee comprised CASA RFP, AME and District Office Staff, airlines, general aviation organisations, training organisations, unions and licenced and non licenced maintenance personnel. Under the guidance of the RFP, the committee compiled and distributed a survey to all affected industry parties in May 1997.

The objective of the survey was to establish and benchmark industry perception and satisfaction with the current aircraft maintenance personnel training and licensing system. The results of the survey were published and distributed widely within the industry. The results of the survey indicated that although there was general satisfaction with some aspects of the existing system, other aspects were perceived as onerous and/or out of date. A summary of responses to the survey included comment on:

- high costs for CASA examinations

- out of date/irrelevant examination content
- limited recognition of relevant prior experience
- the relevance of the schedules of experience (SOE) required by CASA and the difficulty in completing them
- lack of training in the structure and application of the legislative requirements for aircraft maintenance
- confusing regulations and orders

A majority of respondents could see the need for improvements to the existing system such as more cross trade training. For example a greater emphasis on electrical training for engine/airframe personnel. There was also a strong response in favour workshop maintenance personnel holding formal qualifications. The response to a question concerning introducing anti-drug and visual acuity requirements was also very positive. The committee utilised the survey results in developing the proposed changes to the training and licensing system presented in this paper.

In essence, the proposed changes retain aspects of the current training and licensing system amended in response to:

- the survey results;
- technology advances in the design, maintenance and operation of modern aircraft;
- the committee deliberations; and;
- the recommendation for formal training of maintenance personnel in ICAO Annex 1.

#### Proposed Changes

The proposed changes to the training and licensing of maintenance personnel presented in this paper represent an agreed CASA and industry position. After extensive meetings and workshops the committee proposed the following changes to the current system:

1. Streamline the AME licence into two streams - Mechanical and Avionic each with a "General" and "Specific type" level.
2. Introduce Aviation Maintenance Specialists (AMS) certificates to replace airworthiness authorities.
3. Training for AME and AMS personnel be mandatory
4. The Australian National Training Authority (ANTA) national competency based training requirements approved by CASA be included in the CAR Part 147<sup>1</sup> training methodologies
5. Maintenance personnel training be carried out by an ANTA recognised training organisation approved by CASA under CAR Part 147.
6. The CAR Part 147 approved training organisation be responsible for the technical training and examination and competency assessment. CASA will accept CAR Part 147 graduation certificates as evidence of meeting the knowledge, skills and competency requirements for issue of an appropriate licence or certificate.
7. The current four year industry experience requirement for issue of a licence be reduced to three years. With the implementation of mandatory training under CAR Part 66<sup>2</sup> the reduction to three years is considered appropriate.
8. The current "Schedule of Experience" (SOE), which provides evidence of a candidates practical experience, be absorbed into the knowledge and competency assessment responsibilities of a CAR Part 147 organisation. Practical consolidation training (PCT), in which practical experience is encapsulated in specific training courses, will replace the specific type aircraft SOE.
9. CASA establish an oral "Airworthiness Management Examination" appropriate to the licence or AMS certificate sought, to be undertaken by all applicants on completion of the required CAR Part 147 training. CASA will assess applicants on aspects of a licence or certificate holder's responsibilities and privileges under the regulations.
10. Prior experience/training to be recognised by a CAR Part 183<sup>3</sup> Authorised Maintenance Personnel Assessor (AMPA) employed by a CAR Part 147 organisation.
11. Drug, alcohol, duty time and visual acuity requirements be established. These are to be included in CAR Part 43<sup>4</sup>, 66 and 145<sup>5</sup>
12. Clarify the scope of licence coverage through the maintenance schedules in CAR Part 43. All LAMEs, Mechanical or Avionics, will be approved to carry out preventive maintenance.
13. Establish formal qualifications for Part 145 workshop personnel.

## CONCLUSION

With the adoption of the proposals outlined in this paper, it will mean a shift in the "technical training oversight" role of CASA. Unlike the current situation where CASA is setting and providing the technical examinations for maintenance personnel, the proposed system will require CASA to provide only the oral airworthiness management examination. The airworthiness management examination will be a CASA quality entry control check of all AME and AMS candidates. The CAR Part 147 approved training syllabus will include airworthiness management subjects in conjunction with those covering technical knowledge and skills training.

The proposed changes will enable the Part 147 organisation to provide all technical training, set examinations and conduct competency assessment for AME and AMS candidates. They will be able to train and set examinations for candidates to an approved common national standard without the prospect of differences between their own syllabus and CASA examination content. With the CASA endorsed ANTA competency standards in place, current SOE requirements for AME, and AMS candidates will be accomplished under the auspices of a Part 147 organisation. This will lead to a more efficient and effective training and examination methodology for the industry.

Mandating training for all AME and AMS personnel will enhance maintenance standards and will lead to safer, more efficient and cost-effective maintenance practices. From a commercial perspective, better trained personnel carrying out maintenance should provide for reduced operating and maintenance costs for the Australian fleet. It is expected that if implemented, the proposed changes would come into effect post January 2000. With the proposed changes in place, CASA resources that are currently utilised in setting and providing technical examinations and assessing SOEs will be available to boost CASA capability to audit training organisations.

The final outcome is that Australia will have better trained and qualified aviation maintenance personnel to meet the changes in aviation technologies.

## RERERENCES

1. Draft CAR Part 147, Approved training Organisations - Covers the standards required to be met for issue of an approved training organisation certificate.
2. Draft CAR Part 66, Maintenance Personnel - Covers the requirements for issue of an AME licence or AMS certificate
3. Draft CAR Part 183, Authorised Representatives - Covers the requirements for appointment as an authorised representative i.e. AMPA.
4. Draft CAR Part 43, General Maintenance Rules - Covers the scope of and who may carry out maintenance
5. Draft CAR Part 145, Maintenance Organisations - Covers the standards for issue of a maintenance organisation certificate